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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,197	03/10/2004	Ichiro Kodaka	MPXIP001	6219
22434	7590	10/20/2005	EXAMINER	
BEYER WEAVER & THOMAS LLP			ROSS, DANA	
P.O. BOX 70250			ART UNIT	
OAKLAND, CA 94612-0250			PAPER NUMBER	

3722

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/798,197	Applicant(s) KODAKA ET AL.	
	Examiner Dana Ross	Art Unit 3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/19/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1, line 3, states "...a front surface facing...". Lines 4-5 state "said facing surface". It appears from the disclosure that the claimed "front surface facing...comprising a facing part and a grooving part" would be the front surface 15 as shown in figure 2. It is not clear from the disclosure how the claimed "side surfaces of said grooving part and said facing surface join through beveled surface portion". It appears the "said facing surface" should be "said facing part", but it is not clear. It is not clear how the "front surface facing" comprises a "facing part and a grooving part", and furthermore has separate "said side surfaces" for the "facing surface" and "grooving part". Clarification is required.

Claims 2-9, it is not clear from the disclosure what the "~" symbol is representing in the ranges cited. It is not clear if the range is "inclusive", or is "approximately" the range claimed.

Claims 4-6 have the limitation of a "surface roughness of 50 to 1000 mesh". It is not clear from the disclosure what is being claimed by the "mesh".

Claims 7-9 have the limitation of a “surface roughness of 200-300 mesh” for the grooving part on the front surface, side surfaces, and the bottom grooving surface. It is not clear from the disclosure what is being claimed by the “mesh”.

Examiner notes that surface roughness is usually measured in micrometers or micro inches.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 4, recites the limitation "said side surfaces". There is insufficient antecedent basis for this limitation in the claim. It is not clear what applicant considers to be the “each of said side surfaces”.

Also, the last line of claim 1 appears to be grammatically incorrect. It appears the last phrase should read “though a beveled surface portion”.

Claims 4, 5 and 6 recite the limitation "said facing part bottom surface", line 3 and “said facing bottom surface”, line 4. There is insufficient antecedent basis for these limitations in the claim.

Claims 7, 8 and 9, see above claims 1 and 4-6. It is not clear what is being claimed by “said facing front surface” and “said bottom surface”. It is also not clear what is being claimed by “said front faces” and “said facing front surfaces”. It appears that Applicant should specify either “facing part” or “grooving part” with each surface claimed.

Claim 10-12, it is not clear what is being claimed by "said front surface".

Claims 13-19, it appears that "said grooving" should be "said grooving part".

Clarification is required.

The above is not all-inclusive. Applicant is required to review all claims to ensure compliance with 35 USC 112.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3 and 19, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat. No. 5,975,812 (Friedman, hereafter '812).

'812 teaches a cutting insert for simultaneously facing and grooving a target surface by moving in a forward direction defined parallel to the target surface (see figure 3, for example), the cutting insert 1 having a front face facing the forward direction and comprising a facing part (see area 23A and 25A of figure 3) and a grooving part (see area 22A of figure 3), wherein side surfaces of the grooving part and facing part join through a beveled flat surface part surface portion 26A, 27A (figure 3) or smoothly curved beveled surface (see figure 9).

It is noted that '812 does not disclose the dimensions of the insert, and therefore does not expressly disclose a minimum radius of curvature of 0.05mm or the flat surface part making 30-60 degrees with a facing surface.

However, Figure 3 shows the beveled parts 27A and 26A at approximately 45 degrees, well within the claimed range of claim 3.

Applicant has not claimed any relationship with the claimed dimension of the curved bevel to the size of the insert. Examiner takes official notice that it is well known in the art to have a radius of curvature greater than 0.05mm, depending on the size of the insert used, and as a minimum is a factor in deciding the size of the tool used in grooving as taught by '812.

In the alternative, if Applicant does not agree that the radius of curvature of '812 meets the limitation of a minimum radius of curvature of 0.05mm, Applicant is referred to the below 35 USC 103 rejection.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2-18, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over '812.

'812 teaches all aspects of claim 1 and the limitation of beveled surface smoothly curved. '812 is silent as to the exact range of dimensions of the tool.

Regarding claim 2, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the generic dimensions of the insert as taught by '812 to be of a size larger than that required for a minimum radius of curvature of the beveled curved surface of 0.05mm for the purpose of machining varying sized grooves depending on the

Art Unit: 3722

machining operation required at the time. The range of the dimension of the radius of curvature being 0.05mm or greater is of such a range that it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. Furthermore, it is also noted that a modification of size would involve a mere change in the size of a component and a change in size is generally recognized as being within the level of ordinary skill in the art. It is further noted that there is nothing limiting the size of '812 to being of any size, including a large enough size wherein the radius of curvature has a "minimum radius of curvature of 0.05mm" for the machining operation required.

Regarding claim 3, '812 is silent as to the degree range of the flat surface parts making with the facing surface. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the generic dimensions of '812 to include a specific range of 30-60 degrees since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Regarding claims 4-6, '812 is silent as to the dimensions of the insert. However, Figures 3 and 9 of '812 show a relationship between the facing part width and grooving part depth that would provide for the meeting of the claimed range, depending on the size of the tool chosen. For example, though the dimensions are not disclosed, it can be seen that the range of dimensions of the insert taught by '812 includes a relationship between the width of the facing part and groove depth. Based on Figure 3, which Examiner notes is not necessarily drawn to scale, the width is approximately 6.0 cm, and groove depth is approximately 0.5cm. As can be

seen by the relationship of these dimensions, there is nothing limiting the structure of '812 meeting the relationship dimensions claimed.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the generic dimensions of the insert as taught by '812 to be of a size wherein the width of the facing part is 0.2-50mm and the groove depth between 0.1-0.5mm for the purpose of machining varying sized grooves depending on the machining operation required at the time. The range of the dimension is of such a large range that Examiner notes it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. Furthermore, it is also noted that a modification of size would involve a mere change in the size of a component and a change in size is generally recognized as being within the level of ordinary skill in the art. It is further noted that there is nothing limiting the size of '812 to being of any size, including a large enough size wherein the facing part width was 0.2-50mm and the groove depth of 0.1-0.5mm for the particular machining operation required.

Regarding claims 7-9, '812 is silent as to the dimensions of the insert. However, figures 1, 3, 5, 8 and 9, for example, show the incline that the facing front surface makes with the bottom surface. Though '812 does not disclose this angle, the angle of the facing front surface as shown in the drawings appears to make an angle greater than 10 degrees, and less than 90 degrees. This is also shown for the bottom grooving surface and the top rake angle based on the positioning of the tool with the workpiece. It is noted that the broad range of the angles claimed does not seem to provide any advantage, used for a particular purpose, or solve a stated problems. Applicant's ranges with '812's insert would have been obvious to one having ordinary skill in the art at the

Art Unit: 3722

time the invention was made, since it has been held where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. Furthermore, in this instance, Applicant's ranges cover the ranges found in '812.

As to the front face having a maximum width of 0.1-10mm, see above claim 4-6 rejection.

Regarding claims 10-12, '812 teaches the grooving part 22A with a gradually decreasing width from the front surface whereby the side surfaces of the grooving part are not parallel, creating a side clearance angle (see figures 1, 2, 8).

Regarding claims 13-18, '812 teaches the side surfaces of the grooving part 22A with a tapered bottom portion. Figures 1-4 show the tapered bottom portion of the grooving part 22A that appears to be less than 30 degrees. However, '812 does not expressly disclose the tapering angle less than 30 degrees and a height of less than 0.2mm.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the tapering angle less than 30 degrees and a height of less than 0.2mm for the purpose of specific machining requirements using the grooving insert as taught by '812, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

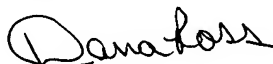
Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Ross whose telephone number is 571-272-4480. The examiner can normally be reached on Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on 571-272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dana Ross
Examiner
Art Unit 3722



dmr